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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/693,396	10/24/2003	Jeffrey P. Snover	MS1-1740US	2522

22801 7590 07/29/2008

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EXAMINER	
YIGDALL, MICHAEL J	

ART UNIT	PAPER NUMBER
2192	

MAIL DATE	DELIVERY MODE
07/29/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/693,396	SNOVER ET AL.	
	Examiner	Art Unit	
	Michael J. Yigdall	2192	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *09 May 2008*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,3,4,6-15,17-23 and 25-27* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,3,4,6-15,17-23 and 25-27* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. This Office action is responsive to Applicant's reply filed on May 9, 2008. Claims 1, 3, 4, 6-15, 17-23 and 25-27 are pending.

Response to Arguments

2. Applicant's arguments filed have been fully considered but they are not persuasive.

Applicant notes that Polonovski does not disclose executing a string and contends that Goldman does not disclose applying an attribution to a construct during the execution of a string (remarks, page 9).

However, the test for obviousness is not that the claimed invention must be expressly suggested in any one or all of the references. Rather, the test is what the combined teachings of the references would have suggested to those of ordinary skill in the art. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981).

As set forth in the last Office action, Polonovski teaches applying the attribution to the construct when the construct is encountered interactively (see, for example, paragraphs [0080]-[0084]). Polonovski does not explicitly disclose "executing the string," and therefore does not explicitly disclose that encountering the construct interactively comprises encountering the construct "during execution." Nonetheless, Goldman suggests "executing the string" and encountering the construct "during execution" in terms of an interactive environment that enables one to define and change programming language constructs during execution of the program (see, for example, paragraph [0053]). Thus, the combined teachings of the references would have suggested the claimed subject matter to those of ordinary skill in the art.

Applicant further contends that the assignment of a value to a variable in Goldman does teach applying the attribution to the construct where the attribution specifies a constraint for the construct. Specifically, Applicant contends that applying an attribution that specifies a constraint for a variable is not the same as assigning a value to the variable (remarks, page 9).

However, the examiner does not agree with Applicant's conclusion. Assigning a value to a variable constrains the variable to that value. In other words, assigning a value to a variable effectively specifies a constraint on the variable, namely that the variable must equal the assigned value. Moreover, as set forth in last Office action, Polonovski teaches an attribution that specifies a constraint for the construct (see, for example, FIG. 3(a) and paragraph [0072]).

Applicant's other arguments (remarks, pages 10-12) are not persuasive for the same reason(s) as presented above.

Claim Rejections - 35 USC § 101

3. 35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

4. Claims 23 and 25-27 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

With respect to claim 23 (currently amended), the claim is directed to a system. However, in light of Applicant's specification, the "system" is reasonably interpreted as an entirely software system, which amounts to descriptive material *per se*. There is no hardware

positively recited in the claim that would permit the functionality of the system to be realized. Accordingly, the claim is directed to non-statutory subject matter. See MPEP § 2106.01.

With respect to claims 25-27 (new), the claims do not remedy claim 23 and are therefore rejected for the same reason(s) as noted above.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6. Claims 1, 3, 4, 6-15, 17-23 and 25-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Pub. No. 2004/0153995 to Polonovski (already of record, "Polonovski") in view of U.S. Pub. No. 2004/0006765 to Goldman (already of record, "Goldman").

With respect to claim 1 (currently amended), Polonovski teaches a computer readable storage medium having computer-executable instructions (see at least FIG. 1), the instructions comprising:

receiving a string in an interactive environment (see at least 220, 205, 210 in FIG. 2 and associated text);

identifying an attribution within the string that specifies a constraint for an associated construct (see at least paragraphs [0021], [0044], and FIG. 3(a) and associated text);

identifying the construct associated with the attribution (see at least paragraphs [0023], [0044]); and

saving information that correlates the attribution with the construct (see at least 220, 230 in FIG. 2 and associated text, and paragraphs [0046]-[0055] and [0061]-[0063]).

Polonovski further teaches applying the attribution to the construct when the construct is encountered interactively (see at least paragraphs [0080]-[0084]), but does not expressly disclose executing the string in the interactive environment, where executing the string includes using the saved information to apply the attribution to the construct when the construct is encountered during execution.

However, Goldman teaches a visual programming environment (see at least FIG. 2 and associated text) that enables the user to develop and modify the application interactively (i.e., executing the modification command/string) while the application runs (see at least paragraph [0017]). Goldman further teaches interactively identifying classes, methods, constructors and parameters (i.e., "construct") associated with the modification (e.g., type editing) (see at least TABLE 2, paragraph [0035]). Goldman also teaches assigning the value to a variable (i.e., applying an identified constraint to an identified construct) as part of the dynamic, interactive modification (see at least paragraphs [0111]-[0112]).

Polonovski and Goldman are analogous art because they are both directed to software development. It would have been obvious to one of ordinary skill in the pertinent art at the time the invention was made to incorporate the teachings of Goldman into those of Polonovski for the inclusion of executing the string in the interactive environment, where executing the string includes using the saved information to apply the attribution to the construct when the construct

is encountered during execution. The motivation for doing so would have been to eliminate the write-compile-execute cycle that routinely bogs down software development and enable first-time programmers to achieve early success without the steep learning curve that typically precedes development in a traditional textual language (see at least Goldman, paragraph [0017]).

With respect to claim 3 (previously presented), the rejection of claim 1 is incorporated, and Polonovski further teaches wherein the construct comprises a variable, a structure, a function, or a script (see at least paragraph [0072]).

With respect to claim 4 (previously presented), the rejection of claim 1 is incorporated, and Polonovski further teaches wherein the information comprises metadata (see at least 220, 230, 225 in FIG. 2 and associated text).

With respect to claim 6 (previously presented), the rejection of claim 1 is incorporated, and Polonovski further teaches wherein the string comprises a command string entered in a command line environment (see at least FIGS. 3(a)-(c) and associated text, and paragraph [0038]).

With respect to claim 7 (previously presented), the rejection of claim 1 is incorporated, and Polonovski further teaches wherein the string comprises a portion of a script (see at least paragraph [0003]).

With respect to claim 8 (previously presented), the rejection of claim 1 is incorporated, and Polonovski further teaches wherein identifying the attribution comprises identifying a plurality of attributions associated with the construct (see at least paragraph [0061]).

With respect to claim 9 (previously presented), the rejection of claim 1 is incorporated, and Polonovski further teaches wherein the attribution specifies a type for the construct (see at least paragraph [0058]).

With respect to claim 10 (previously presented), the rejection of claim 1 is incorporated, and Polonovski further teaches wherein the attribution specifies applying intellisense to the construct to auto-complete the construct (see at least paragraph [0066]).

With respect to claim 11 (previously presented), the rejection of claim 1 is incorporated, and Polonovski further teaches wherein the attribution specifies applying a predicate directive to the string that is operative to determine whether processing of the string continues (see at least paragraph [0058]).

With respect to claim 12 (previously presented), the rejection of claim 1 is incorporated, and Polonovski further teaches wherein the attribution specifies applying a parsing directive that is operative to direct a manner for obtaining the construct (see at least paragraph [0058]).

With respect to claim 13 (previously presented), the rejection of claim 1 is incorporated, and Polonovski further teaches wherein the attribution specifies a data generation directive that is operative to generate a set of information that is stored in the construct (see at least paragraph [0063]).

With respect to claim 14 (previously presented), the rejection of claim 1 is incorporated, and Polonovski further teaches wherein the attribution specifies a data validation directive that is

operative to determine whether a value assigned to the construct meets a criterion specified by the attribution (see at least FIG. 3(a) and associated text).

With respect to claims 15 and 17-21 (currently amended), the claims recite limitations that were previously addressed in the rejection of claims 1, 4 and 10-14 (see the rejection of claims 1, 4 and 10-14 above).

With respect to claim 22 (original), the rejection of claim 15 is incorporated, and Polonovski further teaches wherein the begin symbol comprises a left bracket and the end symbol comprises a right bracket (see at least paragraph [0067]).

With respect to claim 23 (currently amended) and 25-27 (new), the claims recite limitations that were previously addressed in the rejection of claims 1, 3, 4 and 10 (see the rejection of claims 1, 3, 4 and 10 above).

Conclusion

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37

CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael J. Yigdall whose telephone number is 571-272-3707. The examiner can normally be reached on Monday to Friday from 8:00 AM to 4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tuan Q. Dam can be reached on 571-272-3695. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Michael J. Yigdall
Examiner
Art Unit 2192

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